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| EXAMINER |
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MORRISON, THOMAS A

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| ART UNIT | PAPER NUMBER |
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3653

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/684,417 | | NAM, DONG-SOO | |
| | Examiner | | Art Unit | |
| | Thomas A. Morrison | | 3653 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claim 17 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In particular, the **different elasticity** of the elastic members was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1 and its dependent claims 2-9, claim 1 recites "a sheet of paper is **fed and discharged** through the paper-discharging roller and the idle roller". (emphasis added). It is confusing as to how paper is both **fed and discharged** through the paper-discharging roller and the idle roller.

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Regarding claim 10 and its dependent claims 11-18, claim 10 recites a supporting bracket having opposite ends mounted on the supporting plate, and having a middle portion, on which the idle roller is rotatably mounted to contact the paper-discharging roller, **formed between the opposite ends**. In particular, it is unclear from the claim language what is formed between the opposite ends. Is the idle roller formed between the opposite ends? Is the paper-discharging roller formed between the opposite ends?

Claim 11 recites the limitation "the support bracket" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 13, there is insufficient structure recited in this claim to understand how the supporting plate moves toward the supporting bracket? Is the supporting plate moved by the spacing adjustment unit in claim 13?

Claim 18 recites the limitation "the support bracket" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 19 and its dependent claims 20-23, claim 19 recites a supporting bracket having opposite ends mounted on the supporting plate, and having a middle portion, on which the idle rollers are rotatably mounted to contact corresponding ones of the paper-discharging rollers, **formed between the opposite ends**. In particular, it is unclear from the claim language what is formed between the opposite ends. Are the idle rollers formed between the opposite ends? Are the paper-discharging rollers formed between the opposite ends?

Regarding claim 23, it is unclear what is meant by the recited "a center".

Claim 24 recites the limitation "the support plate" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6, 10, 12-16 and 18-23 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,265,869 (Morita). In particular, the Morita patent discloses all of the limitations of claims 1-6, 10, 12-16 and 18-23.

Regarding claim 1, Figs. 1-2B show a paper-discharging apparatus used with an image-forming device, the paper-discharging apparatus provided with a paper-discharging roller (8) and an idle roller (9) disposed in a paper-discharging port side of the image forming device, in which a sheet of paper is fed and discharged through the paper-discharging roller (8) and the idle roller (9), the paper-discharging apparatus including

a supporting plate (5) installed at the paper-discharging port side of the image-forming device;

a supporting bracket (7) mounted on the supporting plate (5) (i.e., the supporting bracket (7) is mounted via elements (15 and 15) to the supporting plate (5)) to rotatably support the idle roller (9) facing the paper-discharging roller (8); and

a spacing adjustment unit (including 10, 12, 13 and 15) constantly maintaining a contact pressure between the paper-discharging roller (8) and the idle roller (9).

Regarding claim 2, Figs. 1-2B show that the spacing adjustment unit (including 10, 12, 13 and 15) has an elastic member (13) provided between the supporting plate (5) and the supporting bracket (7) so that opposite ends thereof abut with the supporting bracket (7) and the supporting plate (5), respectively.

Regarding claim 3, Figs. 1-2B show that the supporting plate (5) and the supporting bracket (7) are connected to be movable with respect to each other.

Regarding claim 4, Figs. 1-2B show that the spacing adjustment unit (including 10, 12, 13 and 15) further includes a guide unit (15) suppressing transverse and bending movements of the elastic member (13).

Regarding claim 5, Figs. 1-2B show that the guide unit (15) has at least one clamping boss (the middle portion of 15) protruding from the supporting bracket (7) such that the clamping boss (the middle portion of 15) is located between the supporting plate (5) and the supporting bracket (7) when the supporting plate (5) and the supporting bracket (7) are assembled.

Regarding claim 6, Figs. 1-2B show that the elastic member (13) has a coil spring installed to wrap around a circumferential surface of the clamping boss (the middle portion of 15).

Regarding claim 10, Fig. 1 shows a paper-discharging apparatus to discharge a sheet of paper between a paper-discharging roller (8) and an idle roller (9) which are disposed in a paper-discharging port side of an image-forming device, including

a supporting plate (5) formed on the paper-discharging port side thereof;

a supporting bracket (7) having opposite ends mounted on the supporting plate (5), and having a middle portion, on which the idle roller (9) is rotatably mounted to contact the paper-discharging roller (8), formed between the opposite ends; and

a spacing adjustment unit (including 13) disposed between the supporting plate (5) and the middle portion of the supporting bracket (7) to adjust a distance between the supporting plate (5) and the middle portion of the supporting bracket (7) when an external force is exerted on one of the supporting plate (5) and the supporting bracket (7).

Regarding claim 12, Fig. 1 shows that the middle portion of the supporting bracket (7) is spaced-apart from the supporting plate (5) by the distance in a direction perpendicular to the paper disposed between the paper-discharging roller (8) and the idle roller (9).

Regarding claim 13, Fig. 1 shows that the supporting plate (5) can move toward the supporting bracket (7) while another distance between the middle portion of the supporting bracket (7) and the paper-discharging roller (8) is maintained constant.

Regarding claim 14, Fig. 1 shows that the spacing adjustment unit (including 13) includes an elastic member (13) disposed between the supporting plate (5) and the middle portion of the supporting bracket (7) to elastically adjust the distance between the supporting plate (5) and the middle portion of the supporting bracket (7).

Regarding claim 15, Fig. 1 shows that the spacing adjustment unit (including 13) includes

a plurality of elastic members (13 and 13) disposed between the supporting plate (5) and the middle portion of the supporting bracket (7) to elastically adjust the distance between the supporting plate (5) and the middle portion of the supporting bracket (7).

Regarding claim 16, Fig. 1 shows that the elastic members (13 and 13) are disposed between the opposite ends of the supporting bracket (7) at a predetermined interval.

Regarding claim 18, Fig. 1 shows that the supporting plate (5) elastically moves toward the support bracket (7) according to elasticity of the elastic member (13) while a distance between the paper-discharging roller (8) and the idle roller (9) is maintained constant.

Regarding claim 19, Figs. 1-2B show a paper-discharging apparatus to discharge a sheet of paper between a plurality of paper-discharging rollers (8 and 8) and a plurality of idle rollers (9 and 9), which are rotated by corresponding ones of the paper-discharging rollers (8 and 8) in an image-forming device, the paper-discharging apparatus including

a supporting plate (5) formed on the paper-discharging port side thereof;

a supporting bracket (7) having opposite ends mounted on the supporting plate (5), and having a middle portion, on which the idle rollers (9) are rotatably mounted to contact corresponding ones of the paper-discharging rollers (8), formed between the opposite ends; and

a spacing adjustment unit (including 13 and 12) disposed between the supporting plate (5) and the middle portion of the supporting bracket (7) to maintain a contact pressure generated between corresponding ones of the paper-discharging rollers (8) and the idle rollers (9) regardless of an external force exerted on the supporting plate (5).

Regarding claim 20, Figs. 1-2B and the Abstract disclose that a distance between the supporting plate (5) and the middle portion of the supporting bracket (7) varies according to the spacing adjustment unit (including 12 and 13) while the contact pressure is maintained constant.

Regarding claim 21, Figs. 1-2B show that the middle portion of the supporting bracket (7) is spaced-apart from the supporting plate (5) by a distance which varies according to deformation of the supporting plate (5).

Regarding claim 22, Fig. 1 shows that a distance between the middle portion of the supporting bracket (7) and the paper-discharging rollers (8) is maintained constant.

Regarding claim 23, Fig. 1 shows that the middle portion of the supporting bracket (7) is not deformed in a direction perpendicular to a center passing through the paper-discharging rollers (8) while the supporting plate (5) is elastically deformed.

4. Claims 1-3, 10-15, 18 and 24-25, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Publication No. 20020130463 (Michel). In particular, the Michel publication discloses all of the limitations of claims 1-3, 10-15, 18 and 24-25.

Regarding claim 1, Fig. 6 shows a paper-discharging apparatus used with an image-forming device, the paper-discharging apparatus provided with a paper-discharging roller (including 24) and an idle roller (below 34c) disposed in a paper-discharging port side of the image forming device, in which a sheet of paper is fed and discharged through the paper-discharging roller (including 24) and the idle roller (below 34c), the paper-discharging apparatus including

a supporting plate (46) installed at the paper-discharging port side of the image-forming device (See also Abstract);

a supporting bracket (near 34c) mounted on the supporting plate (46) (i.e., the supporting bracket (near 34c) is mounted via element (34c) to the supporting plate (46)) to rotatably support the idle roller (below 34c) facing the paper-discharging roller (including 24); and

a spacing adjustment unit (including 34c, 54, 58 and 60) constantly maintaining a contact pressure between the paper-discharging roller (including 24) and the idle roller (below 34c). See also Abstract.

Regarding claim 2, Fig. 6 shows that the spacing adjustment unit (including 34c, 54, 58 and 60) has an elastic member (34c) provided between the supporting plate (46) and the supporting bracket (near 34c) so that opposite ends thereof abut with the supporting bracket (near 34c) and the supporting plate (46), respectively.

Regarding claim 3, Fig. 6 shows that the supporting plate (46) and the supporting bracket (near 34c) are connected to be movable with respect to each other.

Regarding claim 10, Fig. 6 shows a paper-discharging apparatus to discharge a sheet of paper between a paper-discharging roller (including 24) and an idle roller (below 34c) which are disposed in a paper-discharging port side of an image-forming device, including

a supporting plate (46) formed on the paper-discharging port side thereof;

a supporting bracket (directly below 34c) having opposite ends mounted on the supporting plate (46), and having a middle portion, on which the idle roller (below 34c) is rotatably mounted to contact the paper-discharging roller (including 24), formed between the opposite ends (i.e., the entire supporting bracket including the opposite ends thereof are mounted on the supporting plate (46) via spring (34c). Thus, the mounting limitation of claim 10 is met. Also, the Fig. 6 shows that the axle of the idle roller (below 34c) is rotatably mounted above the lowermost end of the supporting

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bracket (directly below 34c). Accordingly, the idle roller (below 34c) is mounted above the lower end of the supporting bracket (directly below 34c) on a middle portion thereof.); and

a spacing adjustment unit (including 34c, 54, 58 and 60) disposed between the supporting plate (46) and the middle portion of the supporting bracket (directly below 34c) to adjust a distance between the supporting plate (46) and the middle portion of the supporting bracket (directly below 34c) when an external force is exerted on one of the supporting plate (46) and the supporting bracket (directly below 34c).

Regarding claim 11, the Abstract explains that the spacing adjustment unit (including 34c, 54, 58 and 60) controls the support bracket (46) to maintain a contact pressure generated between the paper-discharging roller (including 24) and the idle roller (below 34c) constant while adjusting the distance between the supporting plate (46) and the middle portion of the supporting bracket (directly below 34c). See Abstract for explanation of equalized normal forces applied to rollers via the structure of the Michel apparatus.

Regarding claim 12, Fig. 6 shows that the middle portion of the supporting bracket (directly below 34c) is spaced-apart from the supporting plate (46) by the distance in a direction perpendicular to the paper disposed between the paper-discharging roller (including 24) and the idle roller (below 34c). As explained above, the middle portion of the supporting bracket (directly below 34c) is the portion near the axle of the idle roller, that is above the lowermost end of the supporting bracket.

Regarding claim 13, Fig. 6 shows that the supporting plate (46) can move toward the supporting bracket (directly below 34c) while another distance between the middle portion of the supporting bracket (directly below 34c) and the paper-discharging roller (including 24) is maintained constant.

Regarding claim 14, Fig. 6 shows that the spacing adjustment unit (including 34c, 54, 58 and 60) includes an elastic member (34c) disposed between the supporting plate (46) and the middle portion of the supporting bracket (directly below 34c) to elastically adjust the distance between the supporting plate (46) and the middle portion of the supporting bracket (directly below 34c).

Regarding claim 15, Fig. 6 shows that the spacing adjustment unit (including 34c, 54, 58 and 60) includes

a plurality of elastic members (34c and 34d) disposed between the supporting plate (46) and the middle portion of the supporting bracket (directly below 34c) to elastically adjust the distance between the supporting plate (46) and the middle portion of the supporting bracket (directly below 34c). More specifically, when Fig. 6 of the Michel apparatus is viewed by looking into the end (52) of the supporting plate (46), it can be seen that the elastic members (34c and 34d) are both located between the supporting plate (46) and the middle portion of the supporting bracket (directly below 34c).

Regarding claim 18, Fig. 6 shows that the supporting plate (46) elastically moves toward the support bracket (directly below 34c) according to elasticity of the elastic

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member (34c) while a distance between the paper-discharging roller (including 24) and the idle roller (below 34c) is maintained constant.

Regarding claim 24, Fig. 6 shows a paper-discharging apparatus to discharge paper from an image forming device having discharging rollers (including 24), including

a supporting plate (46) positioned at a paper-discharging port side of the image forming device; and

a supporting bracket (including 32, the element directly below 34c and 30) with idle rollers (including the idle roller below 34c and idle roller 28) facing the paper-discharging rollers (including 24), flexibly mounted to the support plate (46) to maintain a constant contact pressure between the idle rollers and respective paper-discharging rollers. The supporting bracket is flexibly mounted to the support plate (46) via the springs (34c and 34d).

Regarding claim 25, Fig. 6 shows that the supporting plate (46) has a supporting plate axis (i.e., the axis extending between the ends (48 and 52) of the supporting plate (46)) disposed substantially parallel to at least one of a first center axis of the idle rollers of the supporting bracket and a second center axis (near 24) of the discharging rollers, and the supporting plate axis of the supporting plate (i.e., the axis extending between the ends (48 and 52) of the supporting plate (46)) becomes disposed not to be parallel to the at least one of the first center axis and the second center axis according to a force exerted on one of the supporting plate (46) and the supporting bracket (including

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32, the element directly below 34c and 30) while the first center axis and the second center axis are maintained substantially parallel to each other.


Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is (571) 272-7221. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Walsh can be reached on (571) 272-6944. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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